

PSWT + OSS Lehre / Teaching

Prof. Dr. Dirk Riehle

Friedrich-Alexander University Erlangen-Nürnberg

Winter Semester 2015 / 16

Software Engineering is ...

- The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software
- Domain-agnostic! Software engineering applies to (is supposed to apply to...) all kinds of software and related artifacts
- Whereever you build software, whatever the domain, you need people skilled in software engineering

PSWT + OSS (Groups)

- PSWT = Praktische Softwaretechnik (Applied Software Engineering)
 - An alliance of several lecturers from industry
 - Including as well Prof. Riehle of OSS
 - <http://pswt.cs.fau.de/>
- OSS = Professorship for Open-Source-Software
 - Also known as Open Source Research Group
 - Is leading the PSWT alliance
 - <http://osr.cs.fau.de>

PSWT + OSS Lecturers



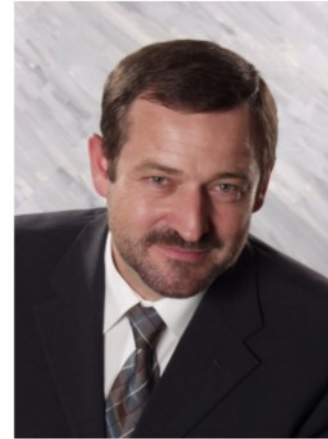
Klaudia Dussa-Zieger

Method Park AG



Martin Geier

Method Park AG



Bernd Hindel

Method Park AG



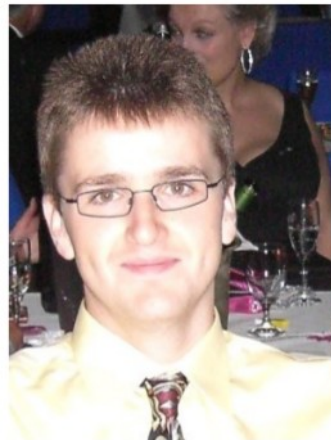
Martin Jung

Develop Group



Detlef Kips

Develop Group



Norbert Oster

FAU (I2)



Dirk Riehle

FAU (OSS)



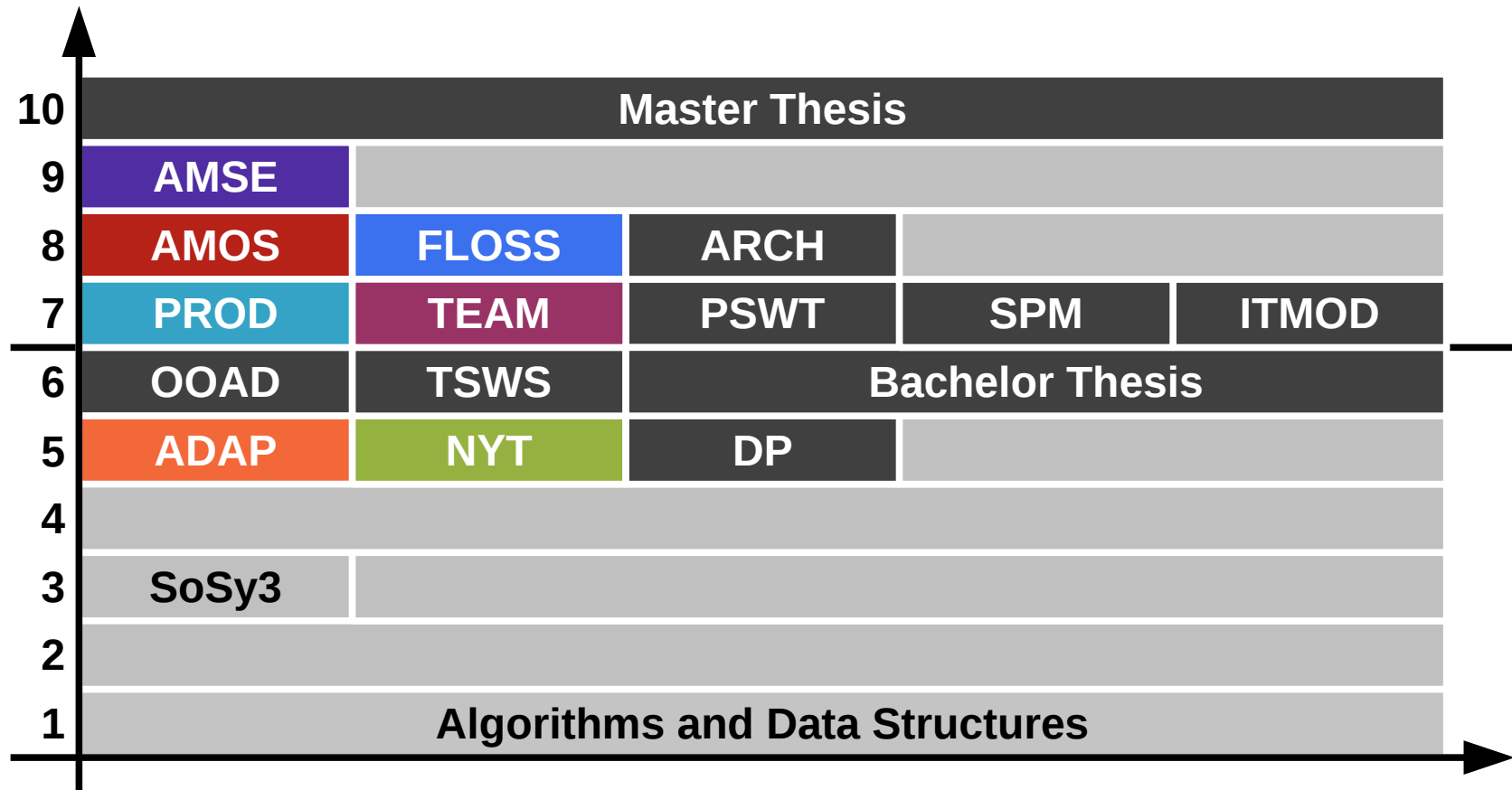
Peter Wilke

FAU (I5)

- 1. Product Manager**
- 2. Engineering Manager**
- 3. Software Architect**
- 4. Software Developer**
- 5. Researcher**

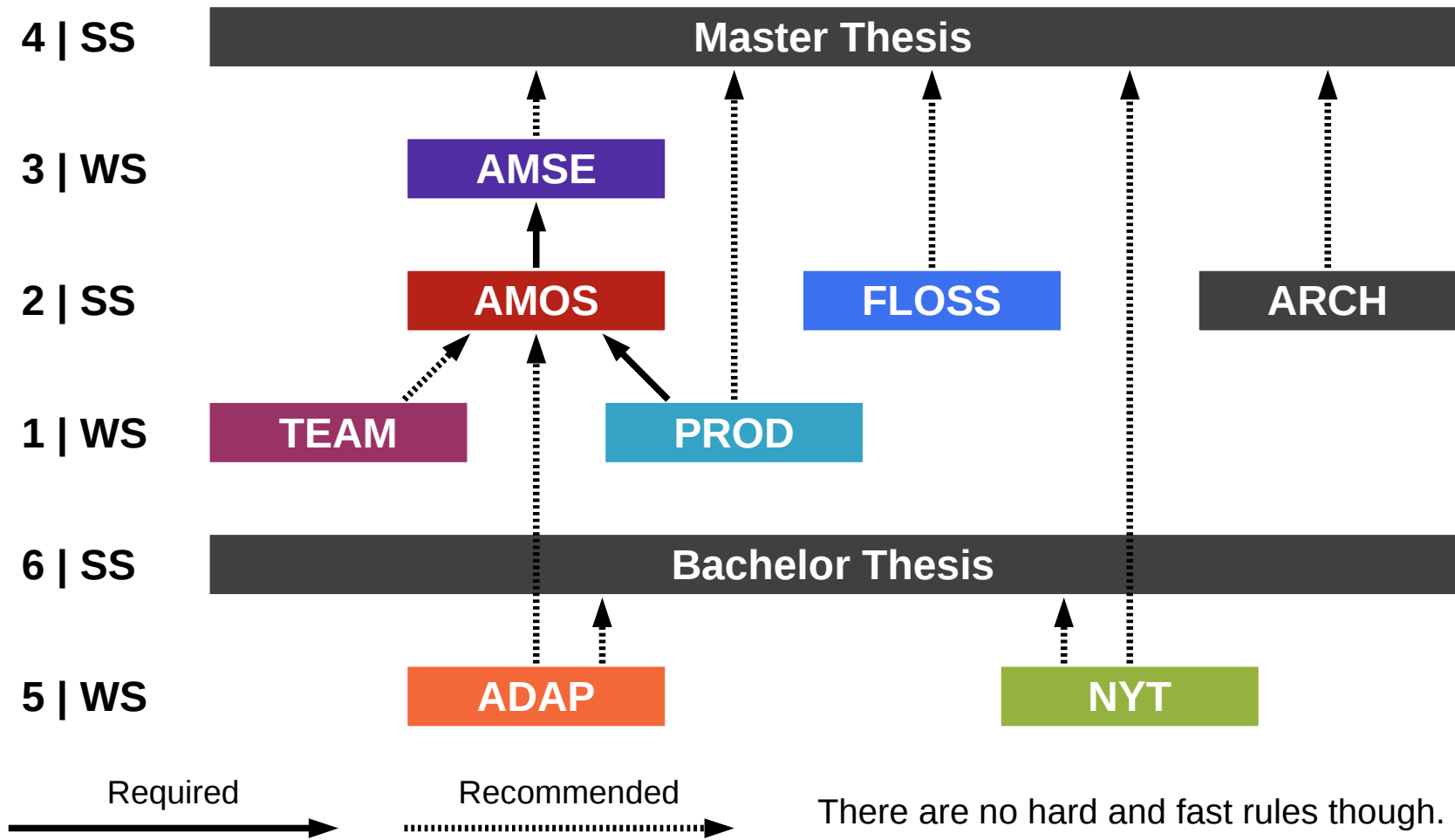
- 1. Established Companies**
- 2. Start-up companies**
- 3. Research labs**

PSWT + OSS Curriculum Overview [1]



[1] More at <http://osr.cs.fau.de/teaching/overview/>

OSS Curriculum Dependencies



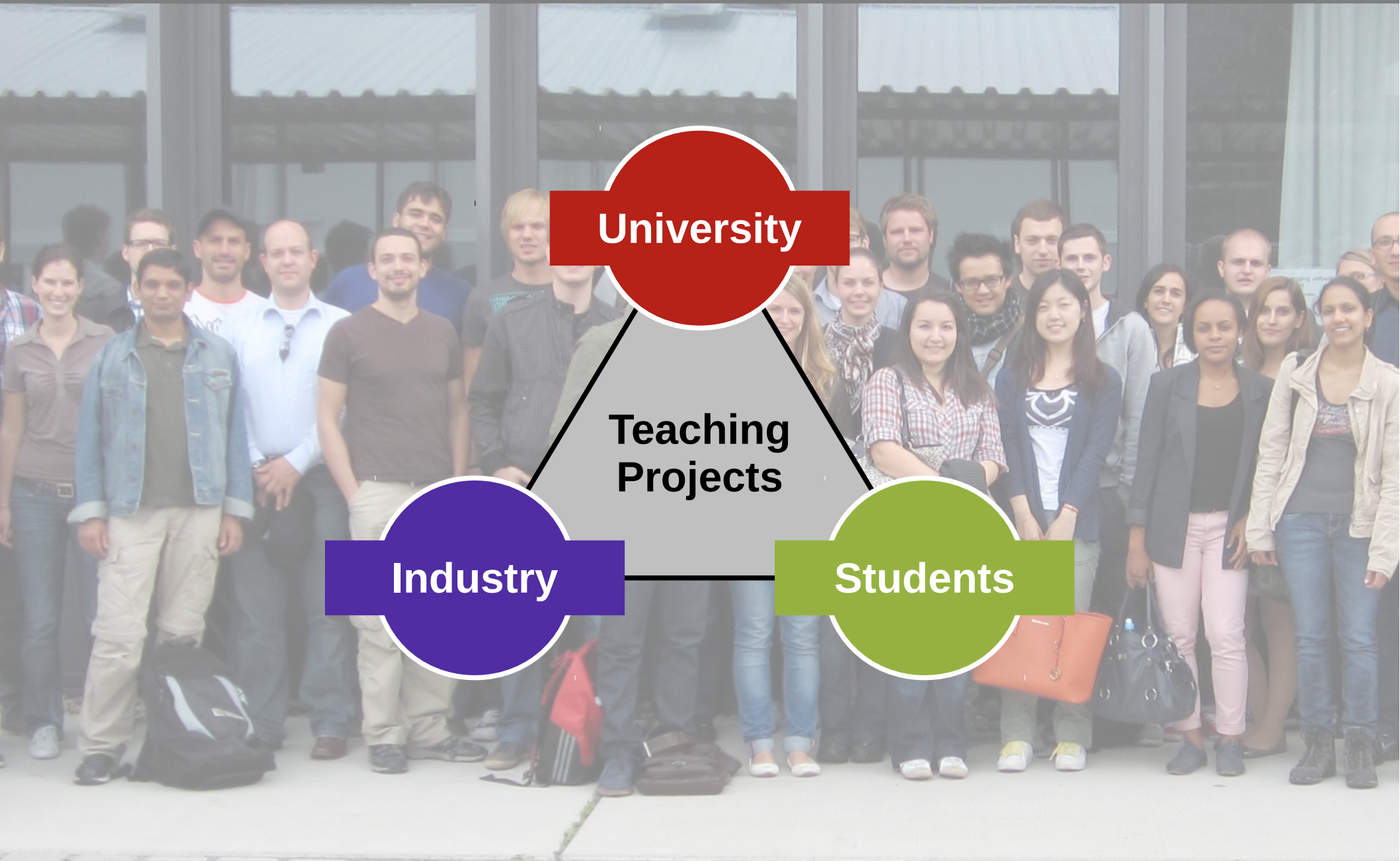
Shortcuts Expanded

Code	Course Name
ADAP	Advanced Design and Programming
AMOS	The Agile Methods and Open Source Project
AMSE	Advanced Methods of Software Engineering
ARCH	Softwarearchitektur
DP	Design Patterns
ITMOD	Modernisierung von IT-Systemen
NYT	Nailing your Thesis
OOAD	Object-orientierte Analyse und Design
PROD	Product Management
PSWT	Praktische Softwaretechnik
SPM	Softwareprojektmanagement
TEAM	High Performance Teamwork
TSWS	Testen von Software Systemen

Teaching Approach

- PSWT
 - Traditional lecture + exercises teaching
 - **PSWT, SPM, OOAD, FLOSS, TSWS, DP, ITMOD**
 - Based on substantial industry experience
- OSS
 - Traditional lectures combined with project work
 - **ADAP, AMOS, ARCH, AMSE, NYT, TEAM**
 - Case-based teaching in **PROD**

OSS-led Project-based Teaching [2]



Some of Our Industry Partners [3]



Project-based Teaching Examples [4]

- In **“Nailing your Thesis” (NYT)**, a large software vendor asked:
 - “We use test-driven development (TDD). For six months last year, however, we decided to 'just hack it' and ignore TDD to speed up development. Later, we cleaned up. It is not clear what was more productive. Please investigate.”
- In **“Agile Methods and Open Source” (AMOS)**, a vendor asked:
 - “We would like to enhance the functionality of our products by embedding social media information from Twitter, Facebook, etc. We don't know how this could look like. Please develop a concept prototype.”
- In **“Product Management” (PROD)**, a vendor asked:
 - “We need to understand the mobile devices opportunity for our product. The importance of the opportunity is not clear to us. Please develop a business plan and a product road-map for a possible push into the mobile market.”

[4] See here what our industry partners are saying about our project-based teaching:
<http://osr.cs.fau.de/category/teaching/specific/amos/amos-testimonials/>

More Information

- Main web sites
 - PSWT: <http://pswt.cs.fau.de/>
 - OSS: <http://osr.cs.fau.de>
- Teaching overview
 - PSWT: <http://osr.cs.fau.de/teaching/overview/#pswt>
 - A better maintained mirror of <http://pswt.cs.fau.de/teaching>
 - OSS: <http://osr.cs.fau.de/teaching/overview/#oss>
- Research projects
 - <http://osr.cs.fau.de/research/projects/>
 - Students can engage for final theses

Student Jobs:

<http://bit.ly/osrg-jobs>

Final Theses:

<http://osr.cs.fau.de/fun>

Student Startups:

<http://startupinformatik.de>

Thank you! Questions?

dirk.riehle@fau.de – <http://osr.cs.fau.de>

dirk@riehle.org – <http://dirkriehle.com> – [@dirkriehle](#)